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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,729	11/13/2001	Moses Rodriguez	1199-1-005CIP2	4304

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EXAMINER	
KOLKER, DANIEL E	
ART UNIT	**PAPER NUMBER**
1646	

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/010,729	RODRIGUEZ ET AL.	
	Examiner	Art Unit	
	Daniel Kolker	1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-90 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-90 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1 – 28, 40, 54-61, and 78-89, drawn to methods of stimulating remyelination or proliferation of glial cells in a mammal, by administering antibodies, classified in class 424, subclass 142.1, for example.

II. Claims 29 – 34, 40, and 90, drawn to methods of stimulating proliferation of glial cells *in vitro*, classified in class 424, subclass 130.1.

III. Claims 35 - 41, drawn to methods of stimulating remyelination of axons by introducing glial cells into a mammal, classified in class 424, subclass 93.7.

IV. Claims 42 – 44, 62 – 65, and 73, drawn to antibodies, classified in class 530, subclasses 387.1 and 388.15.

V. Claims 45 – 51, 66 – 72, and 74, drawn to DNAs, vectors, host cells, vaccines, and methods of purifying polypeptides, classified in class 536, subclass 23.1, and class 435, subclasses 320.1, 252.3, 326, and 69.1.

VI. Claim 52, drawn to a method to screen drugs, classified in class 435, subclass 30.

VII. Claim 53, drawn to a test kit, classified in class 435, subclass 7.1.

VIII. Claim 75, drawn to a method of inducing an immune response in a subject by administering an antibody, classified in class 424, subclass 142.1.

IX. Claims 76 - 77, drawn to methods of imaging, classified in class 424, subclass 134.1, for example.

The inventions are distinct, each from the other because of the following reasons:

Although there are no provisions under the section for "Relationship of Inventions" in M.P.E.P. § 806.05 for inventions that are directed to <u>different</u> methods, restriction is deemed to be proper because these methods appear to constitute patentably distinct inventions for the following reasons:

Inventions I and II are directed to methods that have different steps and goals. Invention I is drawn to methods of manipulating the physiological state of mammals, whereas Invention II is explicitly drawn to *in vitro* methods. The literature describing methods of *in vitro*

manipulations is distinct from that describing stimulation of myelin production, stimulation of cell proliferation *in vivo*, and the treatment and prevention of disease, thereby requiring a separate search and providing a burden on the Office.

Inventions I and III are drawn to methods that have different starting materials, steps, and goals. Invention I requires the introduction of antibodies into a mammal, whereas Invention III requires the introduction of glial cells to a mammal. The Inventions are directed to methods that are distinct both physically and functionally, and are not required one for the other. Furthermore, because one method involves administering a protein while the other requires administering living cells, the potential toxicities of the two inventions are different, thereby requiring separate searches.

Inventions I – III, VIII, and IX are related to Invention IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the antibodies of Invention IV could be used in a number of materially different processes from those listed in Inventions I – III, VIII, and IX. These include, but are not limited to, using the antibodies to purify their antigens and using the antibodies in immunohistochemical assays.

Inventions I – III and VIII are not related to Invention V. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, the methods of Inventions I - III and VIII cannot be performed with the DNAs, vectors, or host cells of Invention V. Invention V also comprises methods of purifying polypeptides, which have different starting materials, steps, and goals from the methods of Inventions I – III and VIII.

Inventions I, III, and VIII are not related to Invention VI. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are methods that have different starting materials, steps, and goals. Inventions I, III, and VIII are drawn to *in vivo* methods, whereas Invention VI is an *in vitro* assay method.

Inventions I – III and VIII are not related to Invention VII. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the methods of *in vivo* treatment and modulating cellular physiology of Inventions I – III and VIII cannot be performed with the test kit of Invention VII. While the test kit of Invention VII uses an antibody, it also requires the use of an unspecified binding partner of the antibody, which is not required for the completion of the methods of the other Inventions. Therefore they are distinct inventions.

Inventions I – III are not related to Invention VIII. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions the methods have different starting materials, steps, and goals. Invention VIII requires that the subjects have been exposed to or infected with a microorganism, which is not required by any of Inventions I – III. Therefore the methods are patentably distinct.

Inventions I – VIII are distinct and independent from Invention IX because they are unrelated. Invention IX requires the use of a detectable label, which is not required for any of the other Inventions. Furthermore, Invention XII is a method of imaging, which implies the presence of some equipment to detect the label and construct an image, although such equipment is not explicitly listed in the claims. Finally, methods of imaging have a separate status in the art, as indicated by their separate classification. Therefore, a separate search would be required, constituting a burden for the Office.

Inventions II and III are distinct and independent from each other because they have different steps and goals, and can be carried out independently. The methods of Invention II can be performed without introducing cells into an animal, which is a requirement for the methods of Invention III. Furthermore, since Invention III essentially constitutes the use of an animal cell as a drug, it is classified separately and would require independent search and consideration.

Invention II is independent and distinct from Invention VI because the methods have different starting materials, steps, and goals. The methods of Invention II require culturing glial cells and adding antibodies, whereas the methods of Invention VI require the culturing of a test colony, administering a compound of undisclosed structure, and measuring whether the amount

or activity of a product of said culture has been altered. Because Invention VI is drawn to an *in vitro* assay and Inventions II is drawn to methods of altering cell physiology, separate searches would be required, thereby placing a serious burden on the Office.

The polynucleotides and vectors of Invention V and the antibodies of Invention IV are patentably distinct for the following reasons: the antibodies of Invention IV includes, for example, IgG which comprises 2 heavy and 2 light chains containing constant and variable regions, including framework regions which act as a scaffold for the 6 complementary determining regions (CDRs). Polypeptides, such as the antibodies of Invention IV, which are composed of amino acids, and polynucleotides, which are composed of nucleic acids, are structurally distinct molecules. Therefore, the antibody and polynucleotide are patentably distinct. The antibody and polynucleotide inventions have a separate status in the art as shown by their different classifications. Furthermore, searching Inventions IV and V would impose a serious search burden since a search of the polynucleotides of Invention V would not be used to determine the patentability of an antibody of Invention IV and vice-versa.

The antibodies of Invention IV are independent and distinct from the methods of Invention VI. The method of Invention VI does not require the use of an antibody, but requires culturing a test colony and exposing it to a compound of undisclosed structure, with the goal of identifying compounds that might alter the level or activity of an antibody. The method of Invention VI cannot be performed with the antibodies of Invention IV. Therefore the inventions are unrelated.

The antibodies of Invention IV and the test kit of Invention VII are patentably distinct. While the test kit includes one antibody, it also includes an undisclosed "specific binding partner" and undisclosed "other reagents". The antibodies of Invention IV could be used for other purposes, i.e. for immunoassays. Therefore the inventions are patentably distinct.

Inventions V and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, the drug-screening method of Invention VI does not require any of the components of Invention V. Furthermore, the searches required to determine patentability of the polynucleotides of Invention V would not be useful in determining the patentability of the methods described in Invention VI. Therefore, a separate search would be required, placing a burden on the Office.

Inventions V and VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, the DNAs, vectors, and methods of purifying polypeptides are not required for the test kit of Invention VII. Furthermore, Invention VII cannot be used to make the products and methods of Invention V.

Inventions VI and VII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the test kit described in InventionVII could be used as part of a radioimmunoassay to detect the amount of the antibody of interest in a blood sample. No culture would have to be grown, nor would said culture have to be contacted with a drug or other agent as required by Inventions VI. Therefore the inventions are patentably distinct.

Further Restriction Within Inventions I – V and VIII

Applicant's claims are drawn to numerous patentably distinct antibodies. If Inventions I – V or VIII are elected, further restriction *within* the group is required, as follows: Applicant is required to elect one antibody, either polyclonal or monoclonal. If a polyclonal antibody as claimed in claims 62 and 64 is elected, Applicant must clearly identify which antibody is being elected, i.e. by name and functional characteristics. If a monoclonal antibody is elected, Applicant must specifically choose one of the antibodies, identified by name and SEQ ID NO., from the group sHIgM22 (LYM 22), ebvHIgM MSI19D10, sHIgM46 (LYM 46), ebvHIgM CB2b-G8, or MSI10E10, or polyclonal antibodies. The monoclonal antibodies listed above have different epitopes, as evidenced by their different staining patterns (see Specification: Table 8, p. 131 – 133). Some bind to cells in the granular layer, some bind to white matter, and some bind to astrocytes. Since the antibodies recognize different eptiopes and cell types, they are patentably distinct inventions. The specific staining pattern of the polyclonal antibodies of claims 62 and 64 is not disclosed but by definition polyclonal antibodies bind to more than one epitope, and thus are patentably distinct from the monoclonal antibodies of the other claims.

Further Restriction Within Inventions VI, VII, and IX

Applicant's claims are drawn to two patentably distinct antibodies. If Invention VI, VII, or IX is elected further restriction within the group is required as follows: Applicant is required to elect either sHIgM22 or sHIgM46. As disclosed in the specification (see especially Table 8, pages 132 – 133) the antibodies have different staining patterns in rat cerebellum, indicating that they recognize different epitopes. Specifically, sHIgM22 recognizes the cytoskeleton of damaged astrocytes; such a property is not disclosed for sHIgM46. The antibodies are patentably distinct.

Applicant is advised that this is not a species election.

Although the classifications for these antibodies are overlapping (with the exception of the polyclonal antibodies of claims 62 and 64), each represents a patentably distinct product with distinct physical and functional characteristics. Further, the search for more than one product would be burdensome, because, in addition to the monoclonal antibodies, applicant is also claiming the polynucleotides that encode for them, requiring multiple searches of both the nucleotide and protein databases.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Election of Species

If Applicant elects *either* Invention I or Invention VI, an election of species is required as detailed below.

This application contains claims directed to the following patentably distinct species of antibodies that have the following properties:

a) inducing remyelination.

b) binding to neural tissue

c) promoting Ca++ signaling within oligodendrocytes; and

d) promoting cellular proliferation of glial cells.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 52 and 54 – 56 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102,

103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of In re Ochiai, In re Brouwer and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

A telephone call was made to Christine Dietzel on October 26, 2004 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Kolker whose telephone number is (571) 272-3181. The examiner can normally be reached on Mon - Fri 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eileen B. O'Hara

EILEEN B. O'HARA
PATENT EXAMINER

Daniel E. Kolker, Ph.D.